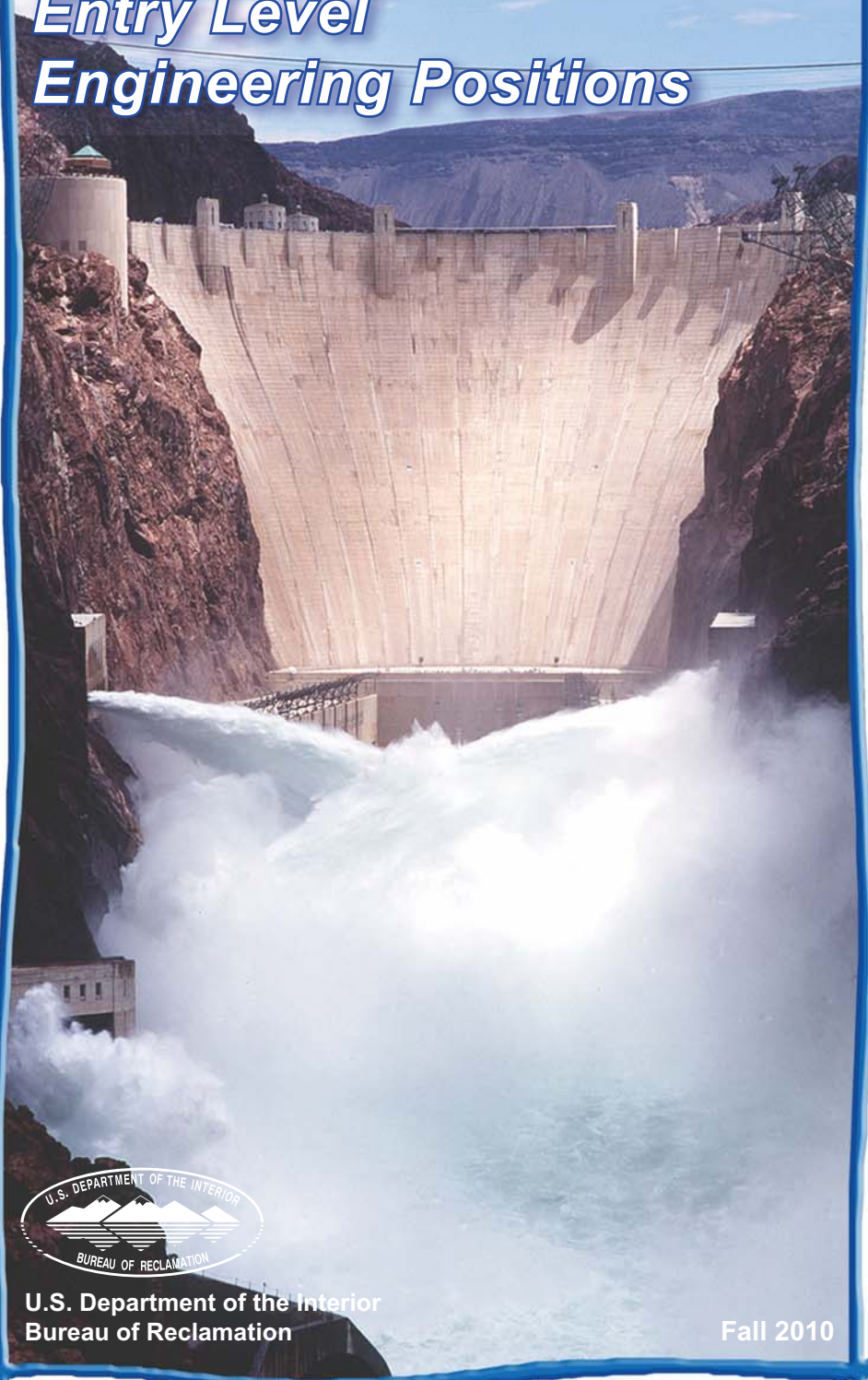
RECLAMATION

Managing Water in the West

Technical Service Center
Denver, Colorado

Entry Level Engineering Positions



U.S. Department of the Interior
Bureau of Reclamation

Fall 2010

Who We Are, and Why Work For Us?

Created in 1902, the Bureau of Reclamation is a water management agency striving to assist in meeting the increasing water demands of the West, while protecting the environment. Reclamation is best known for the construction of dams, power plants, and canals in the 17 western states, including Hoover Dam on the Colorado River, Grand Coulee Dam on the Columbia River, and Shasta Dam on the Sacramento River. Today, we are the largest wholesaler of water in the country and the second largest producer of hydroelectric power in the western United States, generating nearly a billion dollars in power revenues.

The Bureau of Reclamation's mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. We emphasize fulfiling water and power delivery obligations, ensuring water conservation, recycling and reuse, developing partnerships with our customers, municipalities, states, and North American Indian tribes, and discovering ways to bring together a variety of interests to address competing needs for our limited water resources.

Jackson Lake Dam, just one of Reclamation's many Dams, located in Jackson, Wyoming. Bureau of Reclamation Photograph.

The Technical Service Center

The Bureau of Reclamation's Technical Service Center (TSC) is located in Lakewood, Colorado, on the west side of the Denver metropolitan area in a complex known as the Denver Federal Center. Created in 1994, the TSC is an engineering, science, research, and support center for projects related to water resources, and provides specialized expertise to Reclamation's programs, regions, other Federal agencies, and international customers. The TSC maintains a broad range of water resource management capabilities, from designing dams and powerplants to studying aquatic plants; the sharing of scientific and technical expertise in the development and conservation of water resources has long been a fundamental practice of Reclamation.

Currently, the TSC has four service divisions: Civil Engineering, Water and Environmental Resources, Geotechnical Services, and Infrastructure Services. The Technical Service Center would like to invite you to join our staff, to help us fulfill our mission. Reclamation understands that a diverse workforce that reflects the American public is essential to meet future challenges. Therefore, we seek a variety of people with fresh ideas and outlooks, especially engineers and scientists, and invite students to explore our many internships and employment programs.

The following are brief overviews of each TSC division and their groups, web links that can provide more detailed technical information on each group's activities, capabilities, and services, and current job openings.

Technical Service Center located in Building 67, northwest corner of the Denver Federal Center. Bureau of Reclamation Photograph.

Current Engineering Opportunities

Civil Engineering

A BOR Engineer working onsite at one of Reclamation's many projects. Bureau of Reclamation Photo.

Concrete Dams, Spillways, and Outlet Works – structural and hydraulic analysis, evaluation, and designs

Construction and Project Management – scheduling, tracking, claims analysis, contract reviews, inspection and construction support, constructability reviews, earned value analyses

Cost Estimating – develop independent Government cost estimates and compute and maintain cost indexes

Dam Performance Monitoring – design and analysis of dam instrumentation, data analysis, and database maintenance

Dam Safety – evaluations, risk analysis, modifications, performance criteria, and emergency response

Desalination – research and development or desalination and water purification systems including design and installation, membrane evaluation, and pilot and demonstration testing

Embankment Dams and Geotechnical Engineering – static and dynamic analysis, design, dewatering and seepage analysis, and evaluation for embankment dams, foundations for embankment and concrete dams, canals, underground excavations, and soil and rock slopes

Environmental Applications and Research – environmental compliance, invasive species management, and endangered species mitigation including studies of aquatic ecology and water quality, bioassessments, and hydro-acoustic surveys

Facility Inspections – onsite dam safety inspections and inspection of inaccessible features

Fisheries and Wildlife Resources – development and evaluation of fish passage and protection technologies and operation methodologies through specialized field testing methods, laboratory hydraulic models, and sonar camera underwater imaging

BOR Engineers working onsite at one of Reclamation's many dams. Bureau of Reclamation Photo.

Flood Hydrology and Meteorology – extreme precipitation and flood studies, statistical hydrological analyses, flood inundation mapping, analysis and forecasting of runoff, precipitation, and climatic variability

Hydraulic Investigations and Laboratory Services – hydraulic analysis, design, research, and testing through computational fluid dynamics modeling, field investigations, environmental hydraulics, and physical modeling

Materials Engineering – research and testing of physical design properties of concrete, soils, rock, geotextiles, and coatings for corrosion control methods

Plant Structures – design of powerplants, pumping plants, switchyards, water treatment facilities, and other complex structures

River Hydraulics and Geomorphology – 2D and 3D hydraulic modeling and field studies for river restoration and erosion control

Sedimentation – studies of sediment volume, distribution, resources, and transport mechanisms

Folsom Dam Project model, located in Reclamation's Hydraulics Lab, Building 56 on the Denver Federal Center. Bureau of Reclamation Photograph.

Specifications – preparation of project-specific specifications for all design functions and maintenance of agency guide specifications

Structural Analysis – seismic analysis of buildings and static and dynamic structural analysis for concrete dams and appurtenant structures, powerplants, and pumping plants

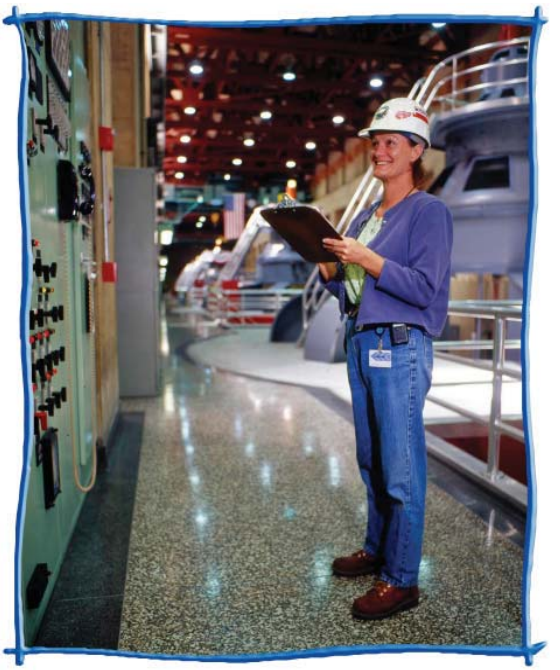
Water Conveyance – design and analysis of large fish facilities, irrigation and power canals, pipelines, tunnels, and diversion structures

Electrical Engineering

Electrical Systems – design and analysis for generators, switchyards, power transformers and circuit breakers, motor control centers, grounding and bonding, SCADA, excitation, digital governor, and electrical control systems

Factory Inspections – inspection services for major electrical equipment purchases

Hydroelectric Systems – analysis, condition assessment, consultation, troubleshooting, diagnostics, testing, failure analysis, arc flash, optimization studies, and design rating reviews



Employee working at one of Reclamation's many facilities. Bureau of Reclamation Photograph.

Engineering and Scientific/Technical Opportunities For Students and Interns

Student Career Experience Program (SCEP)

Students appointed under the SCEP authority are hired to work in their academic field, and may be non-competitively converted to a career or career-conditional appointment upon successful completion of their academic program.

Federal Career Intern Program (FCIP)

This program is designed to help agencies recruit and attract exceptional individuals into a variety of occupations. It is intended for positions at GS-5, 7, and 9, or other trainee positions. Individuals are appointed to a 2 year internship. Interns may be non-competitively converted to a career or career-conditional appointment upon successful completion of their program.

Benefits

New permanent employees, as well as SCEP and FCIP appointees, are immediately eligible for annual and sick leave, as well as health and life insurance coverage (see below). Temporary employees are not entitled to these benefits.

- 10 paid holidays a year
- 2 ½ weeks of annual leave per year
- 2 ½ weeks of sick leave per year
- Family and medical leave
- Paid military, jury, and bereavement leave
- Life insurance
- Retirement/Thrift Savings Plan (TSP)
- Health/dental/vision insurance

Current SCEP and FCIP Opportunities

The following opportunities are available at the Technical Service Center located in Denver/Lakewood, Colorado.

- **Civil Engineering, GS-0810 series**
- **Electrical Engineering, GS-0850 series**

Competitive salaries based on experience and education level.
Current salary rates are available at the Web Site: **http://www.opm.gov/oca/payrates/**

Check Us Out

To learn more about the Bureau of Reclamation, visit our Web Site at **http://www.usbr.gov**

To learn more about the TSC, visit our Web Site at
http://www.usbr.gov/pmts/tech_services/about/index.html

For weekly updated Federal employment listings, see **http://www.usajobs.opm.gov**. All current Reclamation and TSC job openings are listed on this Web Site.

Other Government student employment and internship opportunities are posted on the World Wide Web at: **http://www.studentjobs.gov**

For consideration for SCEP/FCIP positions send your resume, university transcripts, and all veteran documents to the address below by **Tuesday, October 18, 2010**
(all applicants must indicate ***"TSC Intern"*** on the top of their resumes):

Bureau of Reclamation
Human Resources Office
Attn: Brian Mickens
P.O. Box 25007, (84-58200)
Denver, CO 80225-0007

For more information contact:

Mr. Brian Mickens
Phone: (303) 445-2665
Fax: (303) 445-6349
E-Mail: **BMickens@usbr.gov**

About Denver

The mile-high Metro Denver area is situated on the high plains at the eastern base of the Rocky Mountains. Moderate temperatures, low levels of humidity, and abundant sunshine provide an ideal climate for year-round activities. Metro Denver's climate is best described as "semi-arid," averaging a little less than 16 inches of precipitation annually. Winter storms are normally shortlived, and snow melts rapidly. However, the nearby mountains and ski resorts receive significant annual snowfall, allowing residents to enjoy the best of both worlds—a mild climate for hiking, biking and a variety of outdoor activities, as well as a nearby climate for snow skiing, snow-boarding and other mountain activities.

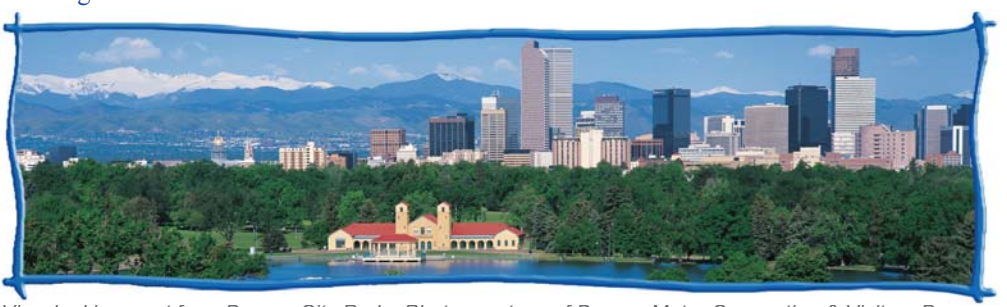
Metro Denver has an enviable quality of life that makes it one of the best places in the United States to live and work. The metro area offers a panoramic view of the Rocky Mountains, the nation's largest public park system, and 300 days of sunshine a year. As a result of these and other amenities, the metro area consistently tops the lists of most livable cities. Recreation and an active lifestyle beckon. Metro Denver's young, active residents are among the nation's healthiest—in both mind and body. Residents dabble in everything from skiing to hiking, mountain biking to river rafting; these activities are why Denver is one of America's fittest cities.

A Moderate Cost of Living

A city of distinctive neighborhoods, Metro Denver's cost of living remains affordable. Colorado's focus on low taxes, coupled with the region's high household incomes, has kept the region's cost of living at or near the national average. Metro Denver ranks slightly above the national average for cost of living, but well below many other major cities. To compensate, Federal employees in the Denver Metro Area get a generous Cost of Living Adjustment (COLA) on top of their Federal salaries. While housing costs have recently taken a downturn, compared to other markets Metro Denver's remains fairly stable and offers some of the best housing values of any major metropolitan area. Numerous housing options are available in the area, ranging from executive housing to entry-level homes and apartments. Health care facilities are numerous and abundant throughout the Denver area. One major Denver hospital system, St. Anthony's, is currently building a full service annex to their main facility a mere few hundred yards from the two Denver Federal Center buildings that house Reclamation and the TSC.

Transportation

A network of transportation options provides metro Denver residents with an easy commute to their place of employment, and a vast system of roadways offers easy access to shopping, entertainment, recreational activities and service providers. The Regional Transportation District (RTD) offers more than 1,071 buses on 174 fixed routes and light rail service on 35 miles of track. Travel to work, home, or cultural and sporting events is quick with RTD's light rail services. On the verge of major expansion to be completed within a decade, the system will eventually extend to Metro Denver's west side. This plan includes a light rail stop at the Denver Federal Center not far from the two buildings that house Reclamation and the TSC. With the capacity to serve 50 million passengers per year, Denver International Airport (DIA) is the fifth busiest airport in the country and the 10th busiest in the world. One of the world's largest, most technologically advanced airports, DIA encompasses 53 square miles and has six runways and 89 gates.



View looking west from Denver City Park. Photo courtesy of Denver Metro Convention & Visitors Bureau; Ron Ruhoff photographer.

For more information on Denver visit **http://www.denver.org or http://www.denverchamber.org** Reclamation would like to thank both organizations for providing this brochure's Denver-specific information.